Introduction

The purpose of this document is to define the simulation design of a security camera system using Cisco packet tracer. The system aims to simulate the behaviour and functionality of a real-world security camera system used in a house.

System Overview

The security camera system simulation will provide a virtual environment where users can interact with simulated security cameras and monitor their feeds.

Functional Requirements

1. Camera Management

- The system should allow users to add, remove, and configure simulated security cameras.

- Each camera should have a unique IP address, location, and configurable settings

- Users should be able to access camera settings and modify them as needed.

2 Camera Control

- Users should have the ability to control simulated cameras, including panning, tilting, and zooming.

- The system should provide a user interface for camera control, allowing users to adjust the camera's position and view angle.

3 Video Feeds

- Users should be able to view live video feeds from individual cameras or multiple cameras simultaneously.

- Video feeds should display in real-time.

4 Video Playback

- The system should allow users to play back recorded video footage from simulated cameras.

Non-functional Requirements

1. Performance

- The system should be able to handle multiple simulated cameras and provide real-time video feeds without significant delays or buffering.

2 Usability

- The user interface should be intuitive, easy to navigate, and provide clear instructions for operating the simulated cameras.

3. Reliability

- The system should be stable and minimise downtime to ensure uninterrupted access to the simulation.

- Simulated cameras should behave consistently and reliably according to their configurations.

4. Security

- The system should employ appropriate security measures, such as encryption and secure communication protocols, to protect user data and prevent unauthorised access.

- User authentication and access controls should be implemented to ensure only authorised users can access the simulation.

5. Constraints

- The simulation should be platform-independent and compatible with major operating systems.

- The system should be developed using a programming language and framework that supports real-time video processing and user interface development.